DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
Centers for Disease Control
Center for Infectious Diseases
Atlanta, Georgia 30333

GUIDE TO INVESTIGATION OF INFANT BOTULISM

A. EPIDEMIOLOGIC (OBTAIN PRINCIPALLY FROM PARENT(S)

PERSONAL DATA

Name (Last) (First)

Date of Birth Mo. Day Yr. (1-2) (3-4) (5-6)

SEX (7)
1 ☐ Male
2 ☐ Female

RACE/ETHNICITY (8)
1 ☐ White, not Hispanic
2 ☐ Black, not Hispanic
3 ☐ Hispanic
4 ☐ Asian or Pacific Islander
5 ☐ American Indian or Alaska native
6 ☐ Unknown

ADDRESS (No. and Street) | City | County | State (9-10) | Phone

MOTHER'S AGE (11-12) | OCCUPATION (13) | FATHER'S AGE (14-15) | OCCUPATION (16)

EDUCATION (17)
1 ☐ Some grade school
2 ☐ Grade school graduate
3 ☐ Some high school
4 ☐ High School graduate
5 ☐ Jr. College/Trade school graduate
6 ☐ College graduate
7 ☐ Higher

EDUCATION (18)
1 ☐ Some grade school
2 ☐ Grade school graduate
3 ☐ Some high school
4 ☐ High school graduate
5 ☐ Jr. College/Trade school graduate
6 ☐ College graduate
7 ☐ Higher

MATERNAL AND PERINATAL HISTORY

NO. OF PREGNANCIES (19) (including case) _____

NO. OF LIVE BIRTHS (20) _____

TYPE OF DELIVERY:
(21) 1 ☐ VAGINAL 2 ☐ C-SECTION

Complications: (22) 1 ☐ Yes 2 ☐ No 9 ☐ Unknown

If yes, describe (23) _____

Was infant premature? (24) 1 ☐ Yes 2 ☐ No 9 ☐ Unk

If yes, gestational age (25-26) _____ Weeks

What was infant's birth weight: _____ lb (27-28) _____ oz. (29-30) _____ (Gms) (31-34)

DIETARY HISTORY (BEFORE ONSET OF PRESENT ILLNESS)

PRESENT ILLNESS – INFANT BOTULISM
DEFINED AS ONSET OF CONSTIPATION OR IF NO CONSTIPATION WHEN MOTHER SAYS CHILD BECAME ILL

BEFORE ONSET OF PRESENT ILLNESS

Was infant ever breast fed? (35) 1 ☐ Yes 2 ☐ No If yes, for how many weeks _____ (36-37)

Was infant ever formula fed? (38) 1 ☐ Yes 2 ☐ No

Was infant primarily (more than 50%) (39) 1 ☐ Breast fed 2 ☐ Formula fed 3 ☐ Both approximately equally

Did infant ever eat or taste (before onset of illness):

FOOD/LIQUID		NEVER 1	ONCE OR A FEW TIMES 2	MANY TIMES 3	DAILY OR MOST DAYS 4	PRINCIPAL TYPE OR BRAND
Formula	(40)	☐	☐	☐	☐	_____ (41)
Cow's Milk (Past.)	(42)	☐	☐	☐	☐	
Unpasteurized (raw milk)	(43)	☐	☐	☐	☐	
Fruit juices	(44)	☐	☐	☐	☐	
Cereal	(45)	☐	☐	☐	☐	
Bread	(46)	☐	☐	☐	☐	
Syrup/water	(47)	☐	☐	☐	☐	_____ (48)
Honey/water	(49)	☐	☐	☐	☐	_____ (50)
Sugar/water	(51)	☐	☐	☐	☐	
Tea/water	(52)	☐	☐	☐	☐	
Fruits, cooked	(53)	☐	☐	☐	☐	
Fruits, raw	(54)	☐	☐	☐	☐	
Vegetables, cooked	(55)	☐	☐	☐	☐	
Vegetables, raw	(56)	☐	☐	☐	☐	
Home-canned foods	(57)	☐	☐	☐	☐	
Baby Foods (Jars)	(58)	☐	☐	☐	☐	
Other _____	(59)	☐	☐	☐	☐	

DIETARY HISTORY

Dietary History (Cont'd.)

Did infant use a pacifier? (60) 1 ☐ Often 2 ☐ Sometime 3 ☐ Rarely 4 ☐ No

If yes, was it ever dipped in: (61) 1 ☐ Syrup 2 ☐ Honey 3 ☐ Other _____ 4 ☐ Nothing

INFANT'S MEDICAL HISTORY (PRIOR TO ONSET OF INFANT BOTULISM)

Were infant's usual bowel movements: (62) 1 ☐ Two or more per day 3 ☐ Every other day
2 ☐ One per day 4 ☐ Less than every other day

Illness prior to onset of present illness (infant botulism):

		Yes 1	No 2	Unk 9	Age in weeks
Fever (>101°F)	(63)	☐	☐	☐	_____ (64-65)
Cold(s)	(66)	☐	☐	☐	_____ (67-68) _____ wks. (69-70)
Constipation (Mother's opinion)	(71)	☐	☐	☐	_____ (72-73)
Diarrhea (Mother's opinion)	(74)	☐	☐	☐	_____ (75-76)
Other	(77)	_____			

Did infant receive antibiotics prior to onset of present illness (Infant botulism)? (78) 1 ☐ Yes 2 ☐ No 9 ☐ Unk

If yes, give

AGE (IN WEEKS)	REASON	DRUG	ROUTE (Oral, Parenteral or Both)	DURATION (Days)
_____ (79-80)	_____ (81)	_____ (82)	_____ (83)	_____ (84-85)
_____ (86-87)	_____ (88)	_____ (89)	_____ (90)	_____ (91-92)
_____ (93-94)	_____ (95)	_____ (96)	_____ (97)	_____ (98-99)

ENVIRONMENTAL HISTORY (PRIOR TO ONSET OF INFANT BOTULISM)

Was there any construction, excessive dust, or environmental change around home from birth of infant until onset of present illness (Infant botulism)? (100)

1 ☐ Yes 2 ☐ No 9 ☐ Unk.

If yes, describe (101) _____

Was parent(s) involved in gardening or yard work from birth of infant until onset of present illness? (102) 1 ☐ Yes 2 ☐ No 9 ☐ Unk.

If yes, describe (103) _____

Did infant remain away from home for more than 1 week prior to onset of present illness? (104) 1 ☐ Yes 2 ☐ No 9 ☐ Unk

If yes, describe (105) _____

SYMPTOMS OF PRESENT ILLNESS (INFANT BOTULISM)

a) Mother first noted infant was ill on Mo. ☐☐ (106-107) Day ☐☐ (108-109) Yr. ☐☐ (110-111), at _____ weeks of age (112-113)

(114) First symptom _____

(115) Second symptom _____

b) The initial visit to a physician was on Mo. ☐☐ (116-117) Day ☐☐ (118-119) Yr. ☐☐ (120-121), at _____ weeks of age (122-123)

c) Infant was hospitalized on Mo. ☐☐ (124-125) Day ☐☐ (126-127) Yr. ☐☐ (128-129), at _____ weeks of age (130-131)

d) Symptoms noted before patient hospitalized

		Yes 1	No 2	Unk 9	Mo	Day	Yr	Weeks old
Constipation	(132)	☐	☐	☐	☐☐ (133-134)	☐☐ (135-136)	☐☐ (137-138)	_____ (139-140)
Poor feeding	(141)	☐	☐	☐				

(Symptoms cont'd on next page)

SYMPTOMS OF PRESENT ILLNESS (INFANT BOTULISM)

d) Symptoms noted before patient hospitalized: (Cont'd)

		Yes 1	No 2	Unk 9
Altered cry	(142)	☐	☐	☐
Irritable	(143)	☐	☐	☐
Poor Head Control	(144)	☐	☐	☐
General Weakness	(145)	☐	☐	☐
Difficulty Breathing	(146)	☐	☐	☐
Fever	(147)	☐	☐	☐
Other	(148) _____	☐	☐	☐

If infant had constipation, how many bowel movements were occurring? (149)

1 ☐ Two or more per day 2 ☐ One per day 3 ☐ One every other day 4 ☐ Two-three times per week

5 ☐ One per week 6 ☐ Less than one per week 7 ☐ Other _____

Interviewee(s) (150) 1 ☐ Mother 2 ☐ Father 3 ☐ Both 4 ☐ Other _____

Interviewer: (Name) _____ Title (151) _____

(Agency) (152) _____ (Phone) _____

Are there problems with this case history form (153) 1 ☐ Yes 2 ☐ No

If yes, describe _____

HOSPITAL DATA

B. HOSPITALIZATION DATA (OBTAIN PRINCIPALLY FROM MEDICAL RECORD OR PHYSICIAN)

Hospital where diagnosis established Medical Record No. _____

Name (154) Address Phone

Primary Physician(s) Phone

	Mo.	Day	Yr.
Date of first hospital admission	☐☐ (155-156)	☐☐ (157-158)	☐☐ (159-160)
Date of last hospital discharge	☐☐ (161-162)	☐☐ (163-164)	☐☐ (165-166)

Total days _____ (167-168) hospitalization

PHYSICAL FINDINGS

Symptoms and Physical Findings observed at any time during illness:

		Yes 1	No 2	Unk. 9
Loss of facial expression	(169)	☐	☐	☐
Ptosis	(170)	☐	☐	☐
Extraocular muscle palsies	(171)	☐	☐	☐
Pupils dilated	(172)	☐	☐	☐
constricted	(173)	☐	☐	☐
sluggish pupil reactivity	(174)	☐	☐	☐
Trouble swallowing	(175)	☐	☐	☐
Constipation	(176)	☐	☐	☐
Diarrhea	(177)	☐	☐	☐
Altered cry	(178)	☐	☐	☐
Weak sucking	(179)	☐	☐	☐
Muscle weakness				
Poor head control	(180)	☐	☐	☐
Upper extremeties	(181)	☐	☐	☐
Lower extremeties	(182)	☐	☐	☐
"Floppy"	(183)	☐	☐	☐
Knee Deep Tendon Reflex				
Absent	(184)	☐	☐	☐
Depressed	(185)	☐	☐	☐
Somnolent	(186)	☐	☐	☐
Irritable	(187)	☐	☐	☐
Fever	(188)	☐	☐	☐
Dehydration	(189)	☐	☐	☐
Respiratory difficulty	(190)	☐	☐	☐
Respiratory arrest	(191)	☐	☐	☐
Pneumonia	(192)	☐	☐	☐
Other _____	(193)	☐	☐	☐

TREATMENT

		1	2	9	
Respiratory Assistance Needed	(194)	☐	☐	☐	_____ (195-196) No. of Days
Oxygen only	(197)	☐	☐	☐	
Intubation	(198)	☐	☐	☐	
Tracheostomy	(199)	☐	☐	☐	
Ventilator	(200)	☐	☐	☐	
Infant feeding					
Feeding tube	(201)	☐	☐	☐	_____ (202-203) No. of Days

TREATMENT

Treatment (Cont'd.)
Antibiotics Given:

Drug	Oral or Parenteral	Dose (Gms/day)	Duration (days)	Date started Mo.	Day
(204)	(205)	(206-208)	(209-210)	(211-214)	
(215)	(216)	(217-219)	(220-221)	(222-225)	
(226)	(227)	(228-230)	(231-232)	(233-236)	
(237)	(238)	(239-241)	(242-243)	(244-247)	

Was antitoxin given? (248) 1 ☐ Yes 2 ☐ No

If yes, give route of administration (249) 1 ☐ I.V. 2 ☐ I.M. 3 ☐ Both 9 ☐ Unk

If yes, how many C.C. Total (Connaught Adult 10cc/vial, Connaught Ped. 2cc/vial

_____ Total cc (250-51)

Other specific therapeutic medication given: (252) _____

DIAGNOSTIC TESTS

Was a spinal tap done? (253) 1 ☐ Yes 2 ☐ No 9 ☐ Unk. Date Mo. Day Yr. (254-259)

Was spinal tap reported as normal? (260) 1 ☐ Yes 2 ☐ No 9 ☐ Unk.

Spinal fluid protein _____ mgm% (261-263)

Total number of white cells _____ (264-266)

Was a Tensilon test done? (267) 1 ☐ Yes 2 ☐ No 9 ☐ Unk. Date Mo. Day Yr. (268-273)

If yes, results (274) 1 ☐ Pos. 2 ☐ Neg. 3 ☐ Equivocal 9 ☐ Unk.

Was an EMG (electromyography) done? (275) 1 ☐ Yes 2 ☐ No 9 ☐ Unk. Date Mo. Day Yr. (276-281)

If yes, was it interpreted as compatible or diagnostic of botulism? (282)

1 ☐ Yes 2 ☐ No 3 ☐ Not sure 9 ☐ Unk.

If EMG done, was BSAP noted? (283) 1 ☐ Yes 2 ☐ No 9 ☐ Unk

Source of hospitalization data: (284)

1 ☐ Physician 2 ☐ Medical Record 3 ☐ Both 4 ☐ Other _____

_____

Hospitalization section completed by:

Name _____ Title (285) _____

Agency (286) _____ Phone No _____ Date _____

C. SPECIMEN TESTING FOR *C. BOTULINUM* (OBTAIN FROM MEDICAL RECORDS, STATE LABORATORY, OR CDC BOTULISM LABORATORY)

Serum sample for toxin: (287) 1 ☐ Type A 2 ☐ Type B 3 ☐ Type E 4 ☐ Neg 5 ☐ Not tested 6 ☐ Toxic but not typed

Stool sample: (288) 1 ☐ Type A 2 ☐ Type B 3 ☐ Type E 4 ☐ Neg 5 ☐ Not tested

STOOL SPECIMEN(S)

Date Mo. Day Yr.	Infant's Age (Wks)	Direct Toxin Assay			Enrichment Culture			Organism Isolated	
		Type Specific Toxic 1	Non-Specific Toxic 2	Non Toxic 3	Type Specific Toxic 1	Non-Specific Toxic 2	Non Toxic 3	Yes 1	No 2
☐☐ ☐☐ ☐☐ (289-294)	____ (295-296)	☐	☐	☐ (297)	☐	☐	☐ (298)	☐	☐ (299)
☐☐ ☐☐ ☐☐ (300-305)	____ (306-307)	☐	☐	☐ (308)	☐	☐	☐ (309)	☐	☐ (310)
☐☐ ☐☐ ☐☐ (311-316)	____ (317-318)	☐	☐	☐ (319)	☐	☐	☐ (320)	☐	☐ (321)
☐☐ ☐☐ ☐☐ (322-327)	____ (328-329)	☐	☐	☐ (330)	☐	☐	☐ (331)	☐	☐ (332)

Date Mo. ☐☐ Day ☐☐ Yr. ☐☐ (333-338) of first negative follow-up specimen.

Were food, medications, or environmental samples tested? (339) 1 ☐ Yes 2 ☐ No 9 ☐ Unk.

If yes, list: (340) _____

_____

Samples positive for: (341) 1 ☐ Performed toxin 2 ☐ *C. botulinum* 3 ☐ Both 4 ☐ Neither

If any positive for toxin or organisms, please describe: (342) _____

_____

Specimen testing section completed by

Name _____ Title _____ (343)

Agency _____ (344) Phone No. _____ Date _____

Patient outcome (345) 1 ☐ Improving 2 ☐ Recovered 3 ☐ Death

If patient died, date Mo. ☐☐ Day ☐☐ Yr. ☐☐ (346-351)

Form Reviewed and Submitted by:

Name _____ Title _____ (352)

Agency _____ (353) Phone No _____ Date _____